CLAIM AMENDMENTS

What Is Claimed:

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)
7. (Cancelled)
8. (Cancelled)
9. (Cancelled)
10. (Cancelled)
11. (Cancelled)
12. (Cancelled)
13. (Cancelled)
14. (Cancelled)
15. (Cancelled)
16. (Cancelled)
17. (Cancelled)
18. (Cancelled)
19. (Cancelled)
20. (Cancelled)

21. (Currently Amended) A method for ~~taxonomic~~ identification of a biological analyte comprising:

(a) exposing a solution containing the analyte to a ligand specific for the analyte of interest that has been covalently ~~tethered~~ bound directly to a photostable linker, said linker covalently tethered to a substrate surface wherein said photostable linker has a length of at least 6 Å, ~~to a substrate surface with a photostable linker at a distance of at least six Å for the capture of proteins~~;

(b) separating the bound analyte from the non-binding components of the solution containing the analyte by physical ~~separation,~~ separation of the substrate surface from the sample, washing or both; and

(c) interrogation of the ligand-tethered substrate surface for analyte binding by detection of the bound analyte.

22. (Original) The method of claim 21, wherein the biological analyte is selected from the group comprised of:

(b) proteinaceous toxins; and

(c) cytosolic proteins.

23. (Currently Amended) The method of claim 21, wherein the ligand is a peptide, ~~usually~~ comprised of three to twenty amino acids ~~long~~, specific for a proteinaceous toxin.

24. (Withdrawn) The method of claim 21, wherein the ligand is a peptide, usually three to twenty amino acids long, specific for a proteinaceous hormone.

25. (Withdrawn) The method of claim 21, wherein the ligand is a peptide, usually three to twenty amino acids long, specific for a cytosolic protein.

26. (Currently Amended) The method of claim 21, wherein the ligand is a peptide ~~that does not contain tryptophan or tyrosine~~ and detection of the captured analyte is accomplished through interrogation of the surface to detect ~~the~~ an intrinsic fluorescence of the ~~protein.~~ tryptophan and/or tyrosine residues present in the captured protein where said intrinsic fluorescence is detected between 300 and 400 nm upon excitation by ultraviolet light between 200 and 300 nm.

27. (Withdrawn) The method of claim 21, wherein the detection of the captured analyte is accomplished through the fluorescence of a reactive dye conjugate exposed to the protein before capture of the analyte by the tethered ligand surface.

28. (Withdrawn) The method of claim 21, wherein the detection of the captured analyte is accomplished through the fluorescence of a reactive dye conjugate exposed to the protein after capture of the analyte by the tethered ligand surface.

29. (Withdrawn) The method of claim 21, wherein the detection of the captured analyte is accomplished through the radioactivity of a reactive compound exposed to the protein before capture of the analyte by the tethered ligand surface.

30. (Withdrawn) The method of claim 21, wherein the detection of the captured analyte is accomplished through the radioactivity of a reactive compound exposed to the protein after capture by the tethered ligand surface.

31. (Withdrawn) The method of claim 21, wherein the detection of the captured analyte is accomplished through the luminescence of a reactive dye conjugate exposed to the protein before capture of the analyte by the tethered ligand surface.

32. (Withdrawn) The method of claim 21, wherein the detection of the captured analyte is accomplished through the luminescence of a reactive dye conjugate exposed to the protein after capture of the analyte by the tethered ligand surface.

33. (Withdrawn) The method of claim 21, wherein the detection of the captured analyte is accomplished through the phosphorescence of a reactive dye conjugate exposed to the protein before capture of the analyte by the tethered ligand surface.

34. (Withdrawn) The method of claim 21, wherein the detection of the captured analyte is accomplished through the phosphorescence of a reactive dye conjugate exposed to the protein after capture of the analyte by the tethered ligand surface.

35. (Withdrawn) The method of claim 21, wherein the detection of the captured analyte is accomplished through the optical absorbance of a reactive dye conjugate exposed to the protein before capture of the analyte by the tethered ligand surface.

36. (Withdrawn) The method of claim 21, wherein the detection of the captured analyte is accomplished through the optical absorbance of a reactive dye conjugate exposed to the sample after capture of the analyte by the tethered ligand surface.

37. (Withdrawn) The method of claim 21, wherein the detection of the captured analyte is accomplished through the fluorescent quenching of the fluorescent tethered ligand surface upon binding of the protein.

38. (Cancelled)

39. (Cancelled)

40. (Cancelled)

41. (Cancelled)

42. (Cancelled)

43. (Cancelled)

44. (Cancelled)

45. (Cancelled)

46. (Cancelled)

47. (Cancelled)

48. (Cancelled)

49. (Cancelled)

50. (Cancelled)

51. (Cancelled)

52. (Cancelled)

53. (Currently Amended) ~~The method of claim 51, wherein the ligands utilized in the array are tethered with a photostable linker at a distance of at least six Å from the substrate surface for the capture of proteinaceous toxins.~~ A method for identification of a protein analyte ~~(proteinaceous toxin or cytosolic protein)~~ comprising:

(a) exposing a solution containing the protein analyte to an array of different peptide ligands which have been covalently tethered with a ~~photostabile~~ photostable linker to a substrate surface at a distance of at least six Å from the substrate surface;

(b) separating the bound protein analyte on the ligand array from the non-binding components of the solution by physical separation of the substrate surface from the sample, washing or both; and

(c) interrogating the ligand-tethered substrate surface with a detection method capable of detecting the bound analyte for protein analyte binding through the:

(i) intrinsic fluorescence of a tryptophan and/or tyrosine residue present in the captured protein where said intrinsic fluorescence is detected between 300 and 400 nm upon excitation by ultraviolet light between 200 and 300 nm;

(ii) fluorescence of a reactive dye conjugate exposed to the protein after capture of the analyte by the tethered ligand surface;

(iii) radioactivity of a reactive compound exposed to the protein after capture by the tethered ligand surface;

(iv) luminescence of a reactive dye conjugate exposed to the protein after capture of the analyte by the tethered ligand surface;

(v) phosphorescence of a reactive dye conjugate exposed to the protein after capture of the analyte by the tethered ligand surface;

(vi) optical absorbance of a reactive dye conjugate exposed to the sample after capture of the analyte by the tethered ligand surface;

(vii) the fluorescent quenching of the fluorescent tethered ligand surface upon binding of the protein.

(d) wherein the protein analyte is selected from the group consisting of:

(i) a proteinaceous toxin

(ii) a cytosolic protein; and

(iii) a proteinaceous hormone.

54. (Cancelled)

55. (Cancelled)

56. (Cancelled)

57. (Cancelled)

58. (Cancelled)

59. (Cancelled)

60. (Cancelled)

61. (Cancelled)

62. (Cancelled)

63. (Cancelled)

64. (Cancelled)

65. (Cancelled)

66. (Cancelled)

67. (Cancelled)

68. (Cancelled)

69. (Cancelled)

70. (Cancelled)

71. (Cancelled)

72. (Cancelled)

73. (Cancelled)

74. (Cancelled)

75. (Cancelled)

76. (Cancelled)

77. (Cancelled)

78. (Cancelled)

79. (Cancelled)

80. (Cancelled)

81. (Cancelled)

82. (Cancelled)

83. (Cancelled)